



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of:

ULRICH MARTIN GRAF

Application No.: 10/033,327

Filed: November 2, 2001

For: **Radiotherapy Apparatus Equipped with an
Articulable Gantry for Positioning an
Imaging Unit**

Art Group: 2882

Examiner: Ho, Allen C.

INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. §1.97

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

In accordance with the duty of disclosure, enclosed is a copy of IDS Citation Form PTO/SB/08 or PTO-1449, together with copies of the documents cited on that form, except for copies not required to be submitted (e.g., copies of U.S. patents and U.S. published patent applications need not be enclosed for applications filed after June 30, 2003). This IDS and IDS Citation Form are being submitted before the mailing of a Notice of Allowance. It is respectfully requested that the cited references be considered and that the enclosed copy of PTO/SB/08 be initialed by the Examiner to indicate such consideration and a copy thereof returned to applicant(s).

03/31/2004 EAREGAY1 00000071 10033327

01 FC:1806


180.00 OP

The submission of this Information Disclosure Statement is not to be construed as a representation that a search has been made in the subject application and is not to be construed as an admission that the information cited in this statement is material to patentability.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Date: March 29, 2004



Andre M. Gibbs, Reg. No. 47,593

12400 Wilshire Boulevard, 7th Floor
Los Angeles, CA 90025
Telephone: (408) 720-8300

I hereby certify that this correspondence is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.



Esther L. Campbell *03-29-04*
Date



Substitute for form 1449A/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Application Number	10/033,327
				Filing Date	November 2, 2001
				First Named Inventor	Ulrich Martin Graf
				Art Unit	2882
				Examiner Name	Ho, Allen C.
Attorney Docket Number	5513P003				
Sheet	1	of	5		

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number Number - Kind Code ² (if known)	Publication Date or Issue Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US- 6,144,875	11-07-2000	Schweikard et al.	
		US- 6,041,097	03-21-2000	Roos et al.	
		US- 6,381,302	04-30-2002	Berestov	
		US- 6,385,286	05-07-2002	Fitchard et al.	
		US- 4,149,247	04-10-1979	Pavkovich et al.	
		US- 4,149,248	04-10-1979	Pavkovich et al.	
		US- 5,099,505	03-24-1992	Seppi et al.	
		US- 5,117,445	05-26-0992	Seppi et al.	
		US- 5,168,532	12-01-1992	Seppi et al.	
		US- 5,335,255	08-02-1994	Seppi et al.	
		US- 5,692,507	12-02-1997	Seppi et al.	
		US- 6,222,901	04-24-2001	Meulenbrugge et al.	
		US- 2001/0008271	07-19-2001	Ikeda et al.	
		US- 5,438,991	08-08-1995	Yu et al.	
		US- 6,104,778	08-15-2000	Murad	
		US-			
		US-			
		US-			
		US-			
		US-			

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ² - Number ³ - Kind Code ⁴ (if known)				
		EP 0480035 B1	11-09-1994			

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

¹Applicant's unique citation designation number (optional). ²See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. *Applicant is to place a check mark here if English language Translation is attached.



Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

Sheet

2

of

5

Complete if Known

Application Number	10/033,327
Filing Date	November 2, 2001
First Named Inventor	Ulrich Martin Graf
Art Unit	2882
Examiner Name	Ho, Allen C.
Attorney Docket Number	5513P003

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.†	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T‡
		RAGAN, "Correction for Distortion in a Beam Outline Transfer Device in Radiotherapy CT-Based Simulation", Med. Phys. 20 (1), Jan/Feb 1993, pgs. 179-185.	
		KUHN, "AIM Project A2003: COmputer VIsion in Radiology (COVIRA)", Computer Methods and Programs in Biomedicine, 1994, Citation from Dissertation Abstracts, 1 page.	
		KEYS, "A CCTV-Microcomputer Biostereometric System for Use in Radiation Therapy (Topography, Medical Physics, Tissue Compensators), 1984, Citation from Energy Science and Technology, 1 page.	
		KUTCHER et al., "Three dimensional radiation treatment planning", Citation from Engineering Index, 1988, 2 pages.	
		REDPATH, et al., "Use of a Simulator and Treatment Planning Computer as a CT Scanner for Radiotherapy Planning", 1984, Citation from INSPEC., 1 page.	
		ELLIOTT, "Interactive Image Segmentation for Radiation Treatment Planning", IBM Systems Journal, 1992, Citation from Medline (R) Database, 1 page.	
		KUSHIMA et al., "New Development of Integrated CT Simulation System for Radiation Therapy Planning", Kobs J Med Sci., 1993, Citation from Medline (R) Database, 1 page.	
		GADEMANN et al., "Three-Dimensional Radiation Planning. Studies on Clinical Integration", Strahlenther Onkol, 1993, 1 page.	
		RAGAN, "Correction for Distortion in a Beam Outline Transfer Device in Radkotherapy CT-based Simulation", Med Phys., 1993, 1 page.	
		ANDREW et al., "A Video-Based Patient Contour Acquisition System for the Design of Radiotherapy Compensators", Med Phys., 1989, 1 page.	
		REYNOLDS, "An Algorithm for Three-Dimensional Visualization of Radiation Therapy Beams", Med Phys., 1988, 1 page.	
		MOHAN, "Intersection of Shaped Radiation Beams with Arbitrary Image Sections", Comput Methods Programs Biomed, 1987, 1 page.	
		BREWSTERFUAUF, "Automatic Generation of Beam Apertures", Medical Physics, 1993, 1 page.	
		HARA et al., "Radiotherapeutic System", 00480035/EP-B1, Citation from World Patent, 1 page.	

Examiner
SignatureDate
Considered

***Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

†Applicant's unique citation designation number. ‡Applicant is to place a check mark here if English language Translation is attached.

Based on PTO/SB/08B (08-03) as modified by Blakely, Solokoff, Taylor & Zafman (wlr) 08/11/2003.
Send To: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450



Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

Sheet

3

of

5

Complete if Known

Application Number	10/033,327
Filing Date	November 2, 2001
First Named Inventor	Ulrich Martin Graf
Art Unit	2882
Examiner Name	Ho, Allen C.
Attorney Docket Number	5513P003

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		MOORE, "Radiation Image Generating System and Method", 1992020202/WO-A1, 1 page.	
		SEPPI, "Computed Tomography Apparatus Using Image Intensifier Detector", 1992000567/WO-A1, 1 page.	
		BOVA, "Dosimetric Technique for Stereotactic Radiosurgery", 1990014129/WO-A1, 1 page.	
		KAZUFUMI, "Radiation Treatment Device", 05057028 JP, 1 page.	
		INAMURA, "CT Simulator For Radiotherapy", 63294839 JP, 1 page.	
		MOORE, "Radiation Image Generating System and Method", Citation from US Patent, 2 pages.	
		NISHIHARA, "Therapeutic Apparatus", 2 pages.	
		Jaffray, "Cone-Beam CT: Application in Image Guided External Beam Radiotherapy and Brachytherapy", IEEE, 2000, 2 pages.	
		NING et al., "An Image Intensifier-Based Volume Tomographic Angiography Imaging System: System Evaluation," SPIE, Vol. 2432, pages. 280-290.	
		"Advanced Workstation for Irregular Field Simulation and Image Matching", Copyright 1999, MDS Nordion, 7 pages.	

Examiner
SignatureDate
Considered

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

¹Applicant's unique citation designation number. ²Applicant is to place a check mark here if English language Translation is attached.

Based on PTO/SB/08B (08-03) as modified by Blakely, Solokoff, Taylor & Zafman (wlr) 08/11/2003.
Send To: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

INFORMATION DISCLOSURE

Application Number

10/033,327

Filing Date

November 2, 2001

First Named Inventor:

Graf

Group Art Unit

2882

Examiner Name

Ho, Allen C.

Attorney Docket Number

5513.0003

STATEMENT BY APPLICANT

(Use as many sheets as necessary)

MAR 31 2004

Sheet

4

of

5

OTHER ART - NO PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T ²
		BALTER, James M. et al., "Daily Targeting of Intrahepatic Tumors for Radiotherapy," Int. J. Radiation Oncology Biol. Phys., vol. 52, no. 1 (2002), pp. 266-271	
		SWINDELL, William et al., "Computed Tomography With a Linear Accelerator With Radiotherapy Applications," Med. Phys., vol. 10, no. 4, July/August 1983; pp. 416-420	
		MOSLEH-SHIRAZI, Mohammad Amin et al., "A Cone-Beam Megavoltage CT Scanner for Treatment Verification in Conformal Radiotherapy," Radiotherapy and Oncology, vol. 48 (1998), pp. 319-328	
		MIDGLEY, S. et al., "A Feasibility Study for Megavoltage Cone Beam CT Using A Commercial EPID," Phys. Med. Biol., vol. 43 (1998), pp. 155-169	
		RUCHALA, K.J. et al., "Megavoltage CT on a Tomotherapy System," Phys. Med. Biol., vol. 44 (1999), pp. 2597-2621	
		NAKAGAWA, Keiichi, M.D. et al., "Megavoltage CT-Assisted Stereotactic Radiosurgery for Thoracic Tumors: Original Research in the Treatment of Thoracic Neoplasms," Int. J. Radiation Oncology Biol. Phys., vol. 48, no. 2, (2000), pp. 449-457	
		GROH, B.A. et al., "A Performance Comparison of Flat-Panel Imager-Based MV and kV Conebeam CT," Med. Phys., vol. 29, no. 6, June 2002, pp. 967-975	
		UEMATSU, Minoru et al., "Daily Positioning Accuracy of Frameless Stereotactic Radiation Therapy With a Fusion of Computed Tomography and Linear Accelerator (FOCAL) Unit: Evaluation of Z-Axis With a Z-Marker," Radiotherapy and Oncology, vol. 50, no. 3, March 1999, pp. 337-339	
		UEMATSU, Minoru, M.D. et al., "A Dual Computed Tomography Linear Accelerator Unit for Stereotactic Radiation Therapy: A New Approach Without Cranially Fixated Stereotactic Frames," Int. J. Radiation Oncology Biol. Phys., vol. 35, no. 3 (1996), pp. 587-592	
		UEMATSU, Minoru, M.D. et al., "Intrafractional Tumor Position Stability During Computed Tomography (CT)-Guided Frameless Stereotactic Radiation Therapy for Lung or Liver Cancers With a Fusion of CT and Linear Accelerator (FOCAL) Unit," Int. J. Radiation Oncology Biol. Phys., vol. 48, no. 2 (2000), pp. 443-448	
		JAFFRAY, David A., Ph.D. et al., "A Radiographic and Tomographic Imaging System Integrated Into a Medical Linear Accelerator for Localization of Bone and Soft-Tissue Targets," Int. J. Radiation Oncology Biol. Phys., vol. 45, no. 3 (1999), pp. 773-789	

Examiner
Signature

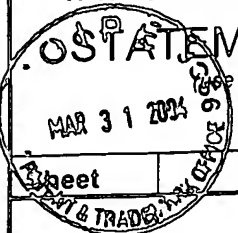
Date

Considered

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

¹Unique citation designation number. ²Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Substitute for Form 1449A/PTO (Modified)		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)		Application Number	10/033,327
		Filing Date	November 2, 2001
		First Named Inventor:	Graf
		Group Art Unit	2882
		Examiner Name	Ho, Allen C.
		Attorney Docket Number	5513.P003
Sheet	5	of	5
			
OTHER ART - NO PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T ²
		PISANI, Laura, M.S. et al., "Setup Error in Radiotherapy: On-line Correction Using Electronic Kilovoltage and Megavoltage Radiographs," Int. J. Radiation Oncology Biol. Phys., vol. 47, no. 3 (2000), pp. 825-839	
		DRAKE, D.G. et al., "Characterization of a Fluoroscopic Imaging System for kV and MV Radiography," Med. Phys., vol. 27, no. 5, May 2000, pp. 898-905	
		JAFFRAY, D.A. and SIEWERDSEN, J.H., "Cone-Beam Computed Tomography with a Flat-Panel Imager: Initial Performance Characterization," Med. Phys., vol. 27, no. 6, June 2000, 1311-1323	
		FAHRIG, R. and HOLDSWORTH, D. W., "Three-Dimensional Computed Tomographic Reconstruction Using a C-Arm Mounted XR11: Image Based Correction of Gantry Motion Nonidealities," Med. Phys., vol. 27, no. 1, January 2000, pp. 30-38	
		FELDKAMP, L.A. et al. "Practical Cone-Beam Algorithm," J. Opt. Soc. Am. A., vol. 1, no. 6, June 1984; pp. 612-619	
		SIEWERDSEN, Jeffery H. and JAFFRAY, David A., "Optimization of X-Ray Imaging Geometry (With Specific Application to Flat-Panel Cone-Beam Computed Tomography)," Med. Phys., vol. 27, no. 8, August 2000, pp. 1903-1914	
		SIEWERDSEN, Jeffery H. and JAFFRAY, David A., "Cone-Beam Computed Tomography With a Flat-Panel Imager: Magnitude and Effects of X-Ray Scatter," Med. Phys., vol. 28, no. 2, February 2001, pp. 220-231	
		CHO, Paul S. et al., "Cone-Beam CT for Radiotherapy Applications," Phys. Med. Biol., vol. 40 (1995), pp. 1863-1883	

Examiner Signature	Date Considered
--------------------	-----------------

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

¹Unique citation designation number. ²Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.